

# EXHIBIT D

U.S. Express Mail No.: ED 687131119 US  
Filing Date: September 19, 2005

PATENT  
Docket No. EC04004USU

## CLAIMS

### What is claimed is:

1. A Broadband Coaxial Network (“BCN”), comprising:  
a first BCN modem in signal communication with a coaxial cable network (“CCN”); and  
another BCN modem in signal communication with the CCN that is capable of two-way signal communication with the first BCN modem across one or more passive network devices having high isolation in the CCN.
2. The BCN of claim 1, wherein the first BCN modem further includes a controller coupled to the first BCN modem that establishes the first BCN modem as a network controller upon connection to the CCN.
3. The BCN of claim 2, wherein a control signal is generated by the first BCN modem in response to the first BCN modem being the network controller.
4. The BCN of claim 1, wherein the another BCN modem further includes a controller coupled to the other BCN modem that detects a control signal that identifies a network controller is coupled to the CCN.

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5. The BCN of claim 1, wherein the signal communication occurs between the BCN modems that are located within a building.

6. The BCN of claim 5, wherein the building is a single family home.

7. The BCN of claim 5 wherein the building is a multi-unit dwelling unit.

8. The BCN of claim 1, wherein the signal communication occurs via a Time Division Multiple Access (TDMA) access scheme on one or more Radio Frequency(RF) channels.

9. The BCN network of claim 1, wherein the signal communication carries encrypted data between the first BCN modem and the other BCN modem.

10. A Broadband Coaxial Network ("BCN") for communicating on an in-building coaxial cable network ("CCN"), comprising:

a first BCN modem connected to a coaxial cable network ("CCN"); and

another BCN modem connected the CCN that is capable of signal communication with the first BCN modem across one or more passive network devices having high isolation in the CCN,

wherein the first BCN modem and the another BCN modem are configured to communicate with each other utilizing TDMA and Time Division Duplex (TDD).

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11. The BCN of claim 10, wherein the first BCN modem employs adaptive communication techniques that adapts to the characteristics of a coaxial channel between the first BCN modem and the other BCN modem.

12. The BCN of claim 10, wherein the first BCN modems is directly in signal communication with the other BCN modem across the CCN.

13. The BCN of claim 12 wherein the CCN is a type of network having a architectural configuration selected from a group consisting of a star configuration and a mesh configuration and a combinations of these configurations, in a TDMA , TDD access fashion, and the type of network utilizes at least one frequency channel.

14. The BCN of claim 13, wherein the adaptive communication techniques includes utilization of the adaptive communication techniques in both transmitting processing and receiving processing of data.

15. The BCN of claim 14, wherein the adaptive communication techniques utilize pre-coding for transmitting processing.

16. The BCN of claim 14, wherein the adaptive communication techniques utilize adaptive equalization for receiving processing.

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17. The BCN of claim 14, wherein the adaptive communication techniques include pre-coding for transmitting processing based on known or learned channel response.

18. The BCN of claim 14, wherein additional signal processing techniques are used which are selected from a group consisting of OFDM bit-loading, transmit power control, transmission diversity, OFDM cyclic prefix, and probes.

19. The BCN of claim 14, further including additional MAC and communication processing including the provision of best effort and reserved communication services, processes and protocol adaptations to adapt other communication services to operate over the BCN.

20. The BCN of claim 19, wherein the communication services and processes includes utilization of a Network Controller ("NC") to control the access to the BCN.

21. The BCN of claim 20, wherein the NC includes a configuration selected from the group consisting of:

a configuration that enables every BCN modem to act as a NC;

a configuration that utilizes a frequency plan;

a configuration that allows a new BCN modem admission to the BCN Network;

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a configuration that allows a new BCN modem to communicate with another BCN modem to characterize the channel response between them and determine a bit loading in either direction; and

a configuration that allows each BCN modem in the network to request and be granted a transmission opportunity without a transmission conflict.

22. The BCN of claim 21, wherein the communications services provided by the BCN include BCN wide transmission priorities.

23. The BCN of claim 22, wherein the BCN services include a configuration that provides reserved bandwidth communication services

24. The BCN of claim 19, wherein the BCN modem provides a protocol adaptation layer for communication over the BCN, the protocol adaptation layer utilizes protocols selected from the group consisting of:

Ethernet,

IEEE 1394,

Universal Serial Bus ("USB"); and

MPEG-TS.

25. The BCN of claim 11, wherein the BCN modem is embedded as a part of a device selected from the group consisting of:

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a set-top box ("STB");  
a Personal Computer (PC);  
an IP STB;  
a Media Center box;  
a Media Extender box;  
a DVD player;  
a cable modem;  
a personal video recorder ("PVR");  
a TV set;  
a networking device;  
a switch/router;  
a bridge/Gateway;  
a video game console;  
a wireless access point (WAP); and  
a network attached storage.

26. The BCN of claim 25, wherein the STB is a device selected from the group consisting of a satellite STB, cable STB, and DSL STB.

27. The BCN of claim 25, wherein the BCN modem utilizes the PCI bus structure.

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28. The BCN of claim 27, wherein the BCN modem utilizes another host device.
29. The BCN of claim 28, wherein the host device is either a bridging host device or a switching host device.
30. The BCN of claim 10, wherein an at least one TDMA frequency channel used by the BCN network is in one or more of the following frequency bands:
- above 860 MHz;
  - between 860 MHz and 950 MHz; and
  - below 50 MHz.
31. The BCN of claim 10, wherein the CCN network is one of the following:
- coaxial cables that have been installed for the carriage of satellite signals;
  - and
  - coaxial cables for video distribution.